



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,993	02/02/2004	Kazutoshi Kan	520.43378X00	5920
20457 7590 10/15/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER BOWERS, NATHAN ANDREW	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 10/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/767,993</p>	<p>Applicant(s)</p> <p align="center">KAN ET AL.</p>	
	<p>Examiner</p> <p align="center">Nathan A. Bowers</p>	<p>Art Unit</p> <p align="center">1797</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____</p> |
|--|---|

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1) Claims 1, 4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Felder (US 6467285).

With respect to claim 1, Felder discloses a culturing apparatus for culturing cellular tissues therein comprising a first chamber (Figure 3:60) and a second chamber (Figure 1:10). Column 5, line 25 to column 6, line 62 state that a first air-lock type inlet/outlet (Figure 3:62) and a second air-lock type inlet/outlet (Figure 3:61) are provided in the first chamber. The first chamber additionally comprises a manipulator (Figure 3:63) capable of being automatically controlled to move samples (Figure 3:3) through the first chamber and into the second chamber. Although Felder describes the second chamber as a freezer in the majority of the reference, Felder does indicate in column 6, lines 26-42 that the second chamber may be characterized by temperatures customary for cell culturing.

With respect to claim 4, Felder discloses the apparatus in claim 1 wherein a turntable (Figure 5:20) is provided within the second chamber. The turntable is capable of holding integrated vessels upon a plurality of racks (Figure 5:23). This is described in column 7, lines 3-34. As illustrated in Figure 3, the manipulator moves through one of the inlet/outlet doors (61) in order to move an integrated vessel (3) to the turntable.

Art Unit: 1797

With respect to claim 6, Felder discloses the apparatus in claim 1 wherein a control means is provided for controlling flow, temperature and humidity of gas communicating within the first chamber. This is described in column 5, line 54 to column 6, line 4.

With respect to claim 7, Felder discloses the apparatus in claim 4 wherein the turntable is rotatable at angles up to and greater than 360 degrees. Column 7, lines 17-20 state that an interchange mechanism (Figure 5:40) is provided for periodically changing the position of the integrated vessel.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were

Art Unit: 1797

made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2) Claims 1, 2, 4-7, 10-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ammann (US 20020137197) in view of Felder (US 6467285).

With respect to claims 1, 2 and 10, Ammann discloses an apparatus comprising a first chamber (Figure 1:50) and a plurality of second chambers (Figure 3:600,602,604,606) that are positioned within the first chamber. Paragraphs [0122] and [0123] indicate that the second chambers act as incubators that operate under controlled temperatures. An inlet/outlet (Figure 3:150) is provided within the first chamber, and a manipulator is provided for moving samples from the inlet/outlet to each of the second chambers. This is described in paragraph [0103]. Ammann, however, does not expressly state that plurality of inlet/outlet access points are provided.

At the time of the invention, it would have been obvious to provide the apparatus of Ammann with a plurality of inlet/outlets. This would have allowed one to simultaneously add or remove samples from the first chamber, and thereby increase the efficiency of the operation. Such an alteration to the construction of the Ammann device would not require the addition of features not already described by Ammann, but would only require the duplication of features (inlet/outlet) already presented. Mere duplication

Art Unit: 1797

of parts has no patentable significance unless a new and unexpected result is produced.

See MPEP 2144.04.

The apparatus of Ammann still differs from Applicant's claimed invention because Ammann does not clearly indicate that the inlet/outlet functions as an air-lock.

Felder discloses the culturing apparatus as described above. Column 5, line 25 to column 6, line 62 states that the inlet/outlet air-lock includes a first door (Figure 3:62) and a second door (Figure 3:61) that work to regulate the transport of materials into the first chamber.

Ammann and Felder are analogous art because they are from the same field of endeavor regarding biological sample storage devices.

At the time of the invention, it would have been obvious to modify the existing inlet/outlet structures disclosed by Ammann so that they each include a first door that opens into the first chamber and a second door that opens into the outside environment. As evidenced by Felder, this two-door air-lock arrangement is considered to well known in the art, and would have been beneficial if implemented in the system of Ammann. The use of a double door air-locks would have ensured that contamination is not allowed to enter into the first chamber of Ammann.

With respect to claims 4 and 7, Ammann and Felder disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. Ammann additionally indicates that the second chamber incubators (Figure 3:600,602,604,606) each include a turntable (Figure 22:671) able to hold an integrated vessel. Each incubator additionally

Art Unit: 1797

comprises a door (Figure 23B) that allows the manipulator to interact with the turntable.

This is disclosed in paragraphs [0237]-[0274].

With respect to claims 5, 6, 11, 12 and 14-16, Ammann and Felder disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejections above. In addition, Ammann states that the temperature is controlled within the first and second chambers, and that fluids are moved from a supply source to the sample vessels that interact with the second chambers. Paragraphs [0016] and [0017] state that a computer controller is utilized to regulate the incubation and sample transportation protocol.

3) Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ammann (US 20020137197) in view of Felder (US 6467285) as applied to claims 1 and 11, and further in view of Henry (US 6974197).

Ammann and Felder disclose the apparatuses in claims 1 and 11 as set forth in the 35 U.S.C. 103 rejections above, however do not clearly describe the use of check valves capable of removing air from the air-lock inlet/outlets. Felder teaches in column 2, lines 31-53 that carbon dioxide and/or nitrogen gases are added to the air-lock inlet/outlets. The term “purge” implies that gases are also withdrawn during the addition of carbon dioxide and/or nitrogen. Felder, however, does not expressly disclose specific means for accomplishing this process.

Henry discloses an isolation chamber (Figure 3:20) connected to an air-lock type inlet/outlet (Figure 3:52) capable of accepting samples. Column 5, lines 40-67 state that

Art Unit: 1797

the air-lock inlet/outlet is fitted with a connection tube (Figure 4:80) and a check valve (Figure 4:67) capable of removing air from the air-lock inlet/outlet.

At the time of the invention, it would have been obvious to ensure that the apparatus of Ammann and Felder is provided with a check valve capable of regulating the removal of gases from the air-lock inlet/outlet just prior to the introduction of samples to the culture chamber. This would have been beneficial because it would have allowed one to decreased contamination. Purging the environment of the air-lock before opening the culture chamber door would have prevented the transfer of undesirable particulates.

Response to Arguments

Applicant's arguments filed 16 August 2007 regarding the 35 U.S.C. 102 rejection involving Felder have been fully considered but they are not persuasive.

Applicant's principle arguments are

(a) The compartment 10 is a freezer compartment, not a compartment for culturing cells.

In response to Applicant's arguments, please consider the following comments.

It is agreed that column 2, line 54 to column 3, line 2 indicates that ultra low temperatures may be maintained within the chamber in one exemplary use of the Felder's apparatus. However, this same passages states that the chamber may be maintained at "up to ambient temperature or greater." Therefore, one must conclude that Felder's apparatus is capable of facilitating cell growth.

(b) If the compartment 10 is equivalent to the second chamber of the present invention, it is submitted that there is no first chamber having a plural number of air-lock type inlet/outlets. The reference numerals 61 and 62 to which the Examiner refers to as inlet/outlets are merely doors on the single climate control chamber 60.

In response to Applicant's arguments, please consider the following comments.

Independent claim 1 requires "a plural number of air-lock type inlet/outlets," and in no way requires a plural number of air-locks. While it is agreed that Felder discloses only one air-lock, this single air-lock includes a first door and a second door. Each door is considered to be an inlet/outlet.

Conclusion

The objection to the drawings made in the prior Office Action (4/17/07) has been withdrawn in response to Applicant's remarks.

The rejections made under 35 U.S.C. 112 in the prior Office Action (4/17/07) have been withdrawn in response to Applicant's amendments.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

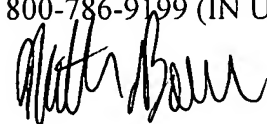
Art Unit: 1797

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



NAB


GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER